



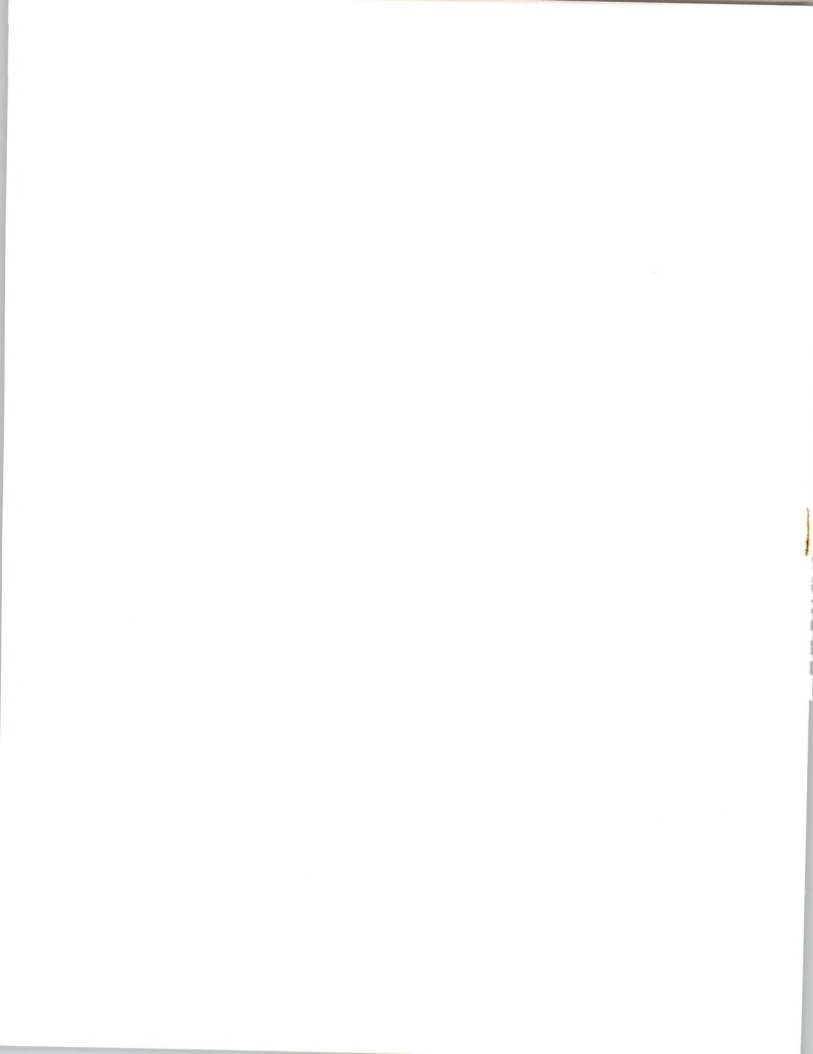
Vendor Financial Watch

QUARTER 4, 1986
PERFORMANCE

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INFORMATION SERVICES VENDOR FINANCIAL WATCH

**QUARTER 4, 1986
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Published by
INPUT
1943 Landings Drive
Mountain View, CA 94043
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VENDOR FINANCIAL WATCH

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I INTRODUCTION

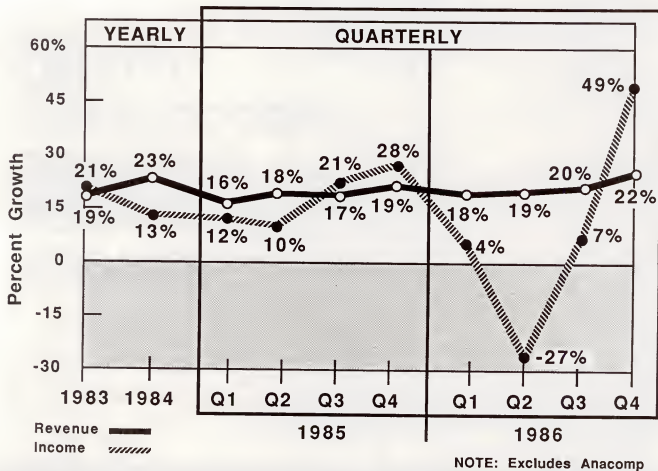
- The Vendor Financial Watch (VFW) is a quarterly INPUT comparison of up-to-date financial reports of public information processing/network services, professional services, software products, and turnkey systems companies, both for comparative purposes (vendor to vendor) and to enable participants in a given sector of the information services market to monitor the overall growth of their sector.
- Each sector of the information services market is analyzed separately, from both a revenue and a net income standpoint. The growth trends are analyzed in the last three columns of each data sheet in increasing calendar sequence.
- Each information services market sector is also commented on separately, highlighting individual company successes and failures and the trend in the market sector as a whole. Footnotes highlighting extraordinary quarterly results are explained at the end of each section.
- The summary analysis at the back of the VFW report analyzes the comparative trends between sectors and comments on the trend of the total information services market. This section is particularly important since it identifies growth patterns very clearly.
- This quarterly Vendor Financial Watch report is intended as a planning tool for market planning executives and as an information newsletter for company executives. The data contained herein are extracted from published sources, annual reports, and 10-K reports, supplemented by INPUT's estimates (denoted by a * following a value) where data was not yet available from the company.
- This issue covers 129 information services vendors.

II DATA REPORTED

- The VFW report is divided into two sections:
 - Information services delivery mode analysis.
 - Total information services industry financial performance.
- Financial data provided includes each vendor's revenue and net income, reported on a calendar quarterly basis, and comparisons on performance provided for:
 - 1986 versus 1985 (year on year).
 - Last nine months' results compared to the year earlier period.
 - Last six months' results compared to the year earlier period.
- Fiscal quarterly revenue is approximated to calendar quarterly revenue as follows:
 - Quarterly revenue reported as of February, March, and April is reported as first quarter.
 - Quarterly revenue reported as of May, June, and July is reported as second quarter.
 - Quarterly revenue reported as of August, September, and October is reported as third quarter.
 - Quarterly revenue reported as of November, December, and January is reported as fourth quarter.
- Fiscal year-end dates are provided in column 2 so that actual quarters for each company can be identified. Values that are followed by an asterisk (*) are INPUT estimates, pending release of the final results from the vendor. These are included so that the overall totals for each sector may be as complete as possible.

**PUBLIC
PROCESSING/
NETWORK
SERVICES
VENDORS**

PUBLIC PROCESSING/NETWORK SERVICES VENDORS



III PROCESSING/NETWORK SERVICES TRENDS ANALYSIS

- The processing/network services sector continued steady growth during the fourth quarter, demonstrating a 21% increase in revenues over fourth quarter 1985. The 1986 annual growth rate was 19%.
- Note that our list of public processing companies now includes CompUCard, Certified Collateral, LCS Industries, and SCS/Compute. Fundsnet has been removed from our list of processing/network services vendors due to its acquisition by National Business Systems. Computone has been omitted since the company has filed for bankruptcy under Chapter 11 and no fourth quarter results were available. Scientific Computers has changed its name to Scicom Data Systems.
- The highest fourth quarter revenue growth rates were exhibited by GTECH (123%), CCX Network (99%), Certified Collateral (74%), and CompUCard (74%).
- Companies with the most significant drop in revenue during fourth quarter were Hale Systems and Keydata (each showing a 49% decrease in revenues from the same period last year).
- Fourth quarter net income results for the processing/network services sector showed a 54% increase over fourth quarter 1985.
 - Major contributors to the improvement were Anacomp, Computer Resources, Concord Computing, DST Systems, GTECH, and Scicom Data Systems.
 - 1986 annual growth in income was 7%.
- Companies that experienced a substantial decrease in net income during the period included Hale Systems (-349%), First Data Management (-345%), and Keydata (-204%).
- For the year, the most profitable companies in this sector were Telerate (19%), Certified Collateral (16%), Comdata Network (14%), and DST Systems (13%).
- The total sample was 40 public processing/network services companies.

REVENUES OF PUBLIC PROCESSING/NETWORK SERVICES COMPANIES

COMPANY NAME	FISCAL YEAR END	REVENUE (\$ Thousands)										GROWTH (Percent)		
		1985					1986					1986/ 1985	LAST 3 ROLLING	LAST 2 ROLLING
		Q1	Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	%(+/-)	QUARTS	QUARTS
ADP	06-30	273528	266310	270710	290258	1100806	324259	318571	321110	334162	1298102	18	18	17
ANACOMP	09-30	31782	32183	27620	28283	119868	30021	27896	22720	26998	107635	-10	-12	-11
CCX NETWORK	12-31	3319	3969	3899	4641	15828	4530	5047	5068	9221 ¹	23866	51	55	67
CERT. COLLAT.	12-31	1359	1592	1913	2404	7268	2909	3052	3631	4188	13780	90	84	81
CITIZENS FIN.	09-30	2683	2551	2494	2735	10463	2773	2662	2731	2917	11083	6	7	8
COMDATA NTKW	12-31	22400	23842	23275	22242	91759	22149	21668	21752	20984	86553	-6	-7	-6
COMPUTER LAN	12-31	36587	24770	17798	19574	98729	33498	20700 ²	18288	20919	93405	-5	-4	5
COMNET	03-31	8800	8726	9056	8952	35534	10469	9165	10170	10188	39992	13	10	13
COMPUCARD	01-31	19281	11263	23302	24104	77950	26842	35208	37801	41908	141759	82	96	68
COMPUTER RES	08-31	2028	1789	1837	1936	7590	2559	2306	2345	2335	9545	26	26	24
COMPUTER SER	02-28	2604	2717	2766	2866	10953	3006	2813	4386	4387	14592	33	39	56
COMSHARE	06-30	14846	16010	16879	18179	65914	16920	16894	16808	17389	68011	3	0	-2
CONCORD COMP	09-30	1650	2264	2820	2840	9574	2974	3336	3664	4417	14391	50	44	43
CYCARE	12-31	9938	11611	13281	14361	49191	12800	14695	14347	15344	57186	16	13	7
DST SYSTEMS	12-31	17430	18941	18401	20170	74942	22868	24716	25715	26901	100200	34	34	36
DYATRON	12-31	9592	9574	10568	10369	40103	7719	7710	8389	9285	33103	-17	-17	-16
ENDATA	12-31	9306	9165	8858	9808	37137	9005	9595	9366	10424	38390	3	6	6
EPSILON	05-31	12072	14020	11227	13410	50729	13686	14896	11805	13121	53508	5	3	1
FIRST DATA MGT	12-31	9274	9281	9054	8609	36218	8035	8174	8697	8104	33010	-9	-7	-5
FIRST FIN MGT	12-31	10528	11723	13160	16944	52355	14463	15158	15469	24604 ³	69694	33	32	33
GTech	02-25	22036 ⁴	13163	12717	27092	75008	26883 ⁵	17900 ⁶	26293	60374 ⁷	131450	75	97	118
GENESEE	05-31	351	402	222	260	1235	262	284	253	354	1153	-7	1	26
HALE SYSTEMS	03-31	1754	1458	1383	1555	6150	1375	1102	1127	786	4390	-29	-31	-35
INFO RESOURCES	12-31	17458	18332	18261	21007	75058	21319	21773	23824	26718	93634	25	26	29
KEYDATA	07-31	1107	987	912	1279	4285	950	1049	683	646	3328	-22	-25	-39
LCS INDUST.	09-30	4581	4936	8939	8613	27069	9201	7981	10529	8883	36594	35	22	11
M/A/R/C	03-31	8462	11093	11874	16864	48293	12995	12183	13447	15800	54425	13	4	2
NATL DATA	05-31	36576	36103	38136	37067	147882	39056	37790	37607	39263	153716	4	3	2
* NETWORK D.P.	03-31	757	763	694	780	2994	763	682	795	850	3090	3	4	12
PAYCHEX	05-31	10500	10936	11700	12077	45213	13131	13766	14958	15328	57183	26	27	27
PAY-FONE	06-30	1713	1614	1686	1980	6993	1581	1707	1746	1998	7032	1	3	2
SCICOM DATA	06-30	3696	3669	3030	3622	14017	3268	3687	3356	3890	14201	1	6	9
SCS/COMPUTE	04-30	9807	1132	1157	1816	13912	11157	1283	1425	1930	15795	14	13	13
SEI	12-31	25029	26984	26890	26929	105832	28683	30353	27571	31933	118540	12	11	11
SHARED MED.	12-31	72708	76876	80292	82332	312208	87281	92494	96418	98687	374880	20	20	20
SYSTEMATICS	05-31	24443	26893	28235	30908	110479	31627	31830	31348	34184	128989	17	13	11
TELECREDIT	04-30	21639	22743	23233	29769	97384	26567	27765	29945	35070	119347	23	22	23
TERELATE	09-30	36926	40661	41757	44986	164330	50068	54300	61001	66908	232277	41	43	47
TSR	05-31	4420	4893	4569	4844	18726	4794	5299	6037	6351	22481	20	24	32
WORLCO DATA	03-31	1314	1634	2270	2088	7306	1788	2326	2600	2717	9431	29	28	22
TOTALS		804284	787573	806875	878553	3277285	944234	929816	955225	1060466	3889741	19	19	20
TOTALS WITHOUT ANACOMP		772502	755390	779255	850270	3157417	914213	901920	932505	1033468	3782106	20	20	21

* INPUT ESTIMATE

NET INCOME OF PUBLIC PROCESSING/NETWORK SERVICES COMPANIES

COMPANY NAME	FISCAL YEAR END	NET AFTER TAX INCOME (\$ Thousands)										GROWTH (Percent)		
		1985					1986					1986/ 1985	LAST 3 ROLLING QUARTERS	LAST 2 ROLLING QUARTERS
		Q1	Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	%(+/-)		
ADP	06-30	26140	26178	18685	24590	95593	31860	30960	22690	30010	115520	21	20	22
ANACOMP	09-30	6667	666	745	99	7977	487	398	3089	2824	6798	-15	318	601
CCX NETWORK	12-31	172	352	418	448	1390	333	463	543	512	1851	33	25	22
CERT. COLLAT.	12-31	232	248	234	831	1545	475	466	586	679	2206	43	32	19
CITIZENS FIN.	09-30	400	307	297	351	1355	312	307	310	339	1268	-6	0	0
COMDATA NTWK	12-31	3400	3092	3353	2877	12722	3819	2080	3040	3264	12203	-4	-10	1
COMPUTER LAN	12-31	7164	1784	-1785	-2516 ⁸	4647	5097	-1334	-513	-3035	215	-95	-94	18
COMNET	03-31	513	56	115	-1591 ⁹	-907	7	136	251	303	697	177	149	138
COMPUCARD	01-31	872	786	1542	1299	4499	1342	1988	2451	2723	8504	89	97	82
COMPUTER RES	08-31	80	-33	-27	21	41	153	92	-15	82	312	661	508	1217
COMPUTER SER	02-28	185	220	229	241	875	335	190	374	374	1273	45	36	59
COMSHARE	06-30	577	350	720	721	2368	-229	130	503	656	1060	-55	-28	-20
CONCORD COMP	09-30	-190	-528	-214	2	-930	2	4	22	177	205	122	127	194
CYCARE	12-31	281	309	993	1281	2864	715	789	697	665	2866	0	-17	-40
DST SYSTEMS	12-31	2529	2352	2089	1298	8268	1840	2709	3148	5492 ¹⁰	13189	60	98	155
DYATRON	12-31	355	301	445	1158 ¹¹	2259	191	26 ¹²	246	1456	1919	-15	-9	6
ENDATA	12-31	-801	-354	-219	-5597	-6971 ¹³	828	832	493	301	2454	135	126	114
EPSILON	05-31	143	396	-338	158	359	37	-1108 ¹⁴	87	320	-664	-285	-425	326
FIRST DATA MGT	12-31	1821	1777	1551	740	5889	-293	-505	-188	-1810	-2796 ¹⁵	-147	-162	-187
FIRST FIN MGT	12-31	447	609	521	602	2179	1033	1428	1443	1619	5523	153	159	173
GTECH	02-25	2723	207	457	1863	5250	-554 ¹⁶	-839 ¹⁷	174	7566 ¹⁸	6347	21	173	234
GENESSEE	05-31	27	22	4	14	67	25	29	16	27	97	45	80	139
HALE SYSTEMS	03-31	213	-254	-160	-111	-312	-4504 ¹⁹	-205	-180	-498	-5387	-1627	-68	-150
INFO RESOURCES	12-31	3189	2087	1971	2938	10185	2200	2500	2637	2665	10002	-2	12	8
KEYDATA	07-31	18	64	-309	176	-51	-85	49	-285	-183	-504	-888	-507	-252
LCS INDUST.	09-30	322	407	435	377	1541	382	-100	593	310	1185	-23	-34	11
M/A/R/C	03-31	478	686	698	791	2653	610	427	325	597	1959	-26	-38	-38
NATL DATA	05-31	2220	2340	2539	2635	9734	2971	-1388 ²⁰	3113	3406	8102	-17	-32	26
* NETWORK D.P.	03-31	-49	72	-120	51	-46	23	-48	-14	20	-19	59	-1500	109
PAYCHEX	05-31	608	905	1017	959	3489	875	1319	1472	959	4625	33	30	23
PAY-FONE	06-30	-67	87	-17	138	141	80	104	198	328	710	404	203	335
SCICOM DATA	06-30	184	192	1	41	418	-270 ²¹	142	194	277	343	-18	162	1021
SCS/COMPUTE	04-30	3200	-1006	-1062	-969	163	4344	-857	-874	-890	1723	957	14	13
SEI	12-31	885	955	1016	1087	3943	1236	916	-10189 ²²	940	-7097	-280	-372	-540
SHARED MED.	12-31	9359	10050	10868	11471	41748	11531	-7350 ²³	13533	14254	31968	-23	-37	24
SYSTEMATICS	05-31	2230	2632	2522	2841	10225	2981	3019	1765	2490	10255	0	-9	-21
TELECREDIT	04-30	65	870	783	2224	3942	1413	1414	2067	3454	8348	112	79	84
TELERATE	09-30	8657	8227	8335	8444	33663	9181	10053	11073	12915	43222	28	36	43
TSR	05-31	590	388	281	222	1481	107	37	186	206	536	-64	-52	-22
WORLD DATA	03-31	-1832 ²⁴	-271	112	247	-1744	357	57	103	152	669	138	255	-29
TOTALS		83807	67528	58725	62452	272512	81247	49330	65164	95946	291687	7	12	33

TOTALS WITHOUT

ANACOMP

77340 66862 57980 62353 264535 80760 48932 62075 93122 284889

8 9 29

* INPUT ESTIMATE

- 7 -

40 COMPANIES

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FOOTNOTES

- 1 CCX Network's revenue includes the acquisitions of BSA (NJ) and Southwark Computer Services (London, England).
- 2 Computer Language's seasonal results are skewed by income tax business.
- 3 First Financial Management's increase in revenue reflected acquisitions of American Information Services, American Data Technology, and Mid-Continent Computer Services.
- 4 GTECH's increased revenue was attributed to a higher sales volume of customer lotteries.
- 5 GTECH realized sales of Ohio system in fiscal 1986.
- 6 GTECH's revenue decrease from previous quarters was a result of fewer terminal sales and lower services revenue from the Oregon lottery contract.
- 7 GTECH's improvement in operating results was attributed to the sale of a major lottery network to the state of California.
- 8 See Footnote 2.
- 9 COMNET's loss represents nonrecurring charges and balance sheet write-downs in goodwill associated with an acquisition made several years earlier.
- 10 DST Systems' income included a pre-tax gain of \$3.65 million from the sale of partnership interests.
- 11 Dyatron's results reflected a net gain on the sale of Dyatron Australia.
- 12 Dyatron's net income results for the past two quarters were attributed to internal training costs for new IBM System/36 software.
- 13 Endata's results represent a loss on discontinued operations from the divestiture of turnkey systems and software products.
- 14 Epsilon's net loss reflects the recognition of costs associated with the termination of the company's role as servicing agent for Pan American's World Pass program.
- 15 First Data Management reported that 1986 losses were the result of accelerated costs associated with the implementation of its new delivery system, ESCAPE 2000, and lower transaction volumes due to economic conditions in the marketplace. In addition, fourth quarter loss reflected the expenses associated with its stock offering.
- 16 GTECH's loss included a \$1.2 million write-off of its investment in Videoway.

- 17 GTECH's loss was the result of lower product sales and lottery contract services revenue as well as higher selling, general, and administrative expenses and interest expenses.
- 18 See Footnote 7.
- 19 Hale Systems' losses for fiscal 1986 included a write-down of computer equipment and related software products as well as a nonrecurring charge associated with a litigation involving one of its subsidiaries.
- 20 National Data's net loss includes a write-off of its discontinued Rapidata time-sharing operation.
- 21 Scientific Computer's loss involved a write-off of its investment in a small software company. The write-off totaled approximately \$500,000 for the fiscal year; \$350,000 was taken third quarter fiscal 1986.
- 22 SEI's loss included a one-time charge to operations consisting primarily of capitalized software costs and goodwill that were originally recorded as part of the 1982 acquisition of TMI Systems and the 1984 acquisition of the Financial Services Group of Index Systems.
- 23 Shared Medical Systems' loss was due to a write-off of its investments related to Shared Medical Systems International's (SMSI) Japanese subsidiary Ni Hon. SMSI has discontinued the Japanese operation.
- 24 Worlco Data's fiscal 1985 loss was due to large start-up costs for new Circulation Fulfillment System clients and higher installation costs for existing turnkey system clients.

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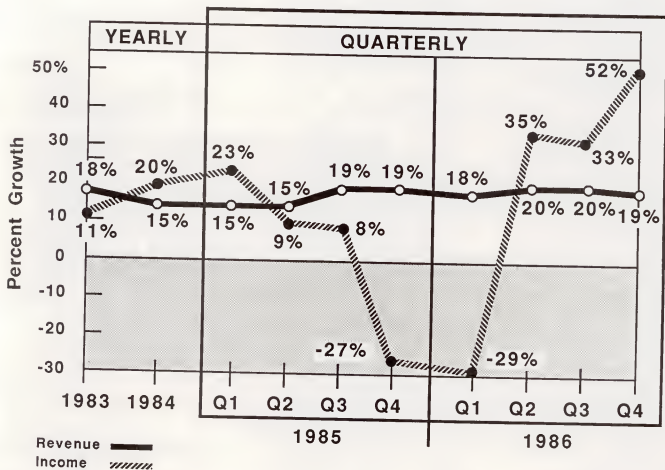
2 Attachments

PUBLIC PROFESSIONAL SERVICES VENDORS

1
45%

Right
margin

PUBLIC PROFESSIONAL SERVICES VENDORS



IV PROFESSIONAL SERVICES TRENDS ANALYSIS

- The professional services sector has continued to grow at approximately the same rate for the past seven quarters. Fourth quarter growth rate and 1986 annual growth rate for the sector were 19%.
- Companies in this sector demonstrating the highest fourth quarter growth rates were AGS Computer (52%), NSA (37%), Data Architects (32%), Computer Sciences (26%), and Analysts International (23%).
- Companies demonstrating a significant decrease in revenues during fourth quarter 1986 were Rand Information Systems (-47%), Advanced Computer Techniques (-17%), and Scientific Systems Services (-16%).
- Net income for the professional services sector grew 52% during fourth quarter 1986. The 1986 annual growth rate for the sector was 20%.
- Companies exhibiting the highest fourth quarter growth in net income were Analysts International (602%), C.A.C.I. (303%), Scientific Systems Services (109%), Intermetrics (106%), and Data Architects (91%).
- Professional services vendors with the most significant drop in net income during fourth quarter were Systems and Computer Technology (-265%), Rand Information Systems (-185%), Advanced Computer Techniques (-49%), and Computer Data Systems (-38%).
- Professional services vendors achieving the highest profitability during fourth quarter were 202 Data Systems (18%) and Advanced Systems (11%).
- These companies were also the most profitable companies for the year with 1986 profit margins of 16% and 12%, respectively.
- The total sample was 26 public professional services companies.

REVENUES OF PUBLIC PROFESSIONAL SERVICES COMPANIES

COMPANY NAME	FISCAL YEAR END	REVENUE (\$ Thousands)										GROWTH (Percent)		
		1985					1986					1986/ LAST 3 LAST 2		
		Q1	Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	1985	ROLLING	ROLLING
												%(+/-)	QUARTRS	QUARTRS
202 DATA SYS	10-31	489	562	487	494	2032	503	446	2287	569	3805	87	114	191
ACT	12-31	3036	3526	4050	4064	14676	3452	3979	4392	3356	15179	3	1	-5
ADV. SYSTEMS	10-31	11529	11254	18175	12973	53931	13151	14628	22492	14003	64274	19	21	17
AGS COMPUTER	12-31	65742	70327	67617	75496	279182	82571	89290	95398	114445	381704	37	40	47
AM. MGT. SYS	12-31	26647	27260	26750	31560	112217	29663	32798	35943	37117	135521	21	24	25
ANALYSTS INT.	06-30	11954	12549	11792	11228	47523	11586	12126	12048	13862	49622	4	7	13
AUXTON COMP	12-31	6453	7182	7100	7124	27859	7670	7742	7650	7267	30329	9	6	5
BDM INTERN'L	12-31	50764	62021	63727	73786	250298	70663	79815	89535	82185	322198	29	26	25
BBN	06-30	35294	41614	39211	44511	160630	45003	49324	48631	53653	196611	22	21	22
C.A.C.I.	06-30	24961	23990	22818	24335	96104	24912	26635	26097	29199	106843	11	15	17
COMP DATA	06-30	12666	13097	13828	13813	53404	13684	13245	11839	12995	51763	-3	-7	-10
COMP HORIZ	02-28	11973	12507	12605	12901	49986	12879	14151	14350	14633	56013	12	13	14
CSC	04-01	198887	187565	209286	204949	800687	236787	233998	249428	257489	977702	22	23	22
COMP TASK GR	12-31	26035	28166	29565	31945	115711	32711	35463	36518	38738	143430	24	23	22
DATA ARCHTS	11-30	4264	5347	5415	5919	20945	5883	6650	6740	7812	27085	29	27	28
DYNAMICS RES	12-25	14633	14242	14448	20916	64239	17160	17819	17803	22410	75192	17	17	14
INTERMETRICS	02-28	10587	11324	12273	10123	44307	10184	11991	12714	11622	46511	5	8	9
KEANE	12-31	9951	10341	9462	9947	39701	9821	9593	10438	10500	40352	2	3	8
LOGICON	03-31	43689	44100	50277	50438	188504	53587	50242	51598	49120	204547	9	4	0
NSA	09-30	1385	1620	1629	1522	6156	1465	1795	2096	2087	7443	21	25	33
RAND INFO.	02-28	2924	2611	2600	4600	12735	2641	1900	1557	2443	8541	-33	-40	-44
SCI SYS SVC	12-31	6719	1608	8584	5601	22512	5126	5362	5278	4717	20483	-9	-3	-30
SOFTTECH	05-31	8998	10391	9520	11096	40005	11327	13205	10691	10537	45760	14	11	3
SYSCON CORP	11-30	26174	28462	29867	32783	117286	29231	33872	34519	37827	135449	15	17	15
SYST. & COMP.	09-30	12512	11874	10792	10693	45871	10469	10137	10224	10110	40940	-11	-9	-5
TECHNALYSIS	12-31	3128	3142	3176	3299	12745	3077	3213	3517	3719	13526	6	9	12
TOTALS		631394	646682	685054	716116	2679246	745206	779419	823783	852415	3200823	19	20	20

NET INCOME OF PUBLIC PROFESSIONAL SERVICES COMPANIES

COMPANY NAME	FISCAL YEAR END	NET AFTER TAX INCOME (\$ Thousands)										GROWTH (Percent)		
		1985					1986					1986/ LAST 3 LAST 2		
		Q1	Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	1985 ROLLING ROLLING	1985 ROLLING ROLLING	1985 ROLLING ROLLING
												%(+/-) QUARTRS	QUARTRS	QUARTRS
202 DATA SYS	10-31	5	3	52	126	186	141	56	315	101	613	230	161	134
ACT	12-31	83	135	191	117	526	136	289	215	60	700	33	27	-11
ADV. SYSTEMS	10-31	1166	1204	2489	1170	6029	1355	1379	3528	1539	7801	29	33	38
AGS. COMPUTER	12-31	1925	1734	1854	1980	7493	1580	2133	2310	2729	8752	17	29	31
AM. MGT. SYS	12-31	1269	1658	1031	1432	5390	902	1122	1488	1719	5231	-3	5	30
ANLYSTS INT.	06-30	454	546	102	-142	960	-569	-345	-890	713 ³	-1091	-214	-203	-343
AUXTON COMP	12-31	340	461	620	615	2036	633	684	756	452	2525	24	12	-2
BDM INTERN'L	12-31	2130	2512	2600	3314	10556	2861	3490	3050	4184	13585	29	27	22
BBN	06-30	2190	2446	2349	2592	9577	2973	3418	3177	3364	12932	35	35	32
C.A.C.I.	06-30	770	553	297	175	1795	105	477	455	706	1743	-3	60	146
COMP DATA	06-30	723	582	638	642	2585	545	514	356	401	1816	-30	-32	-41
COMP HORIZ	02-28	643	666	500	537	2346	508	513	526	616	2163	-8	-3	10
CSC	04-01	7232	5199	4928	4958	22317	8863	6652	7168	7580	30263	36	42	49
COMP TASK GR	12-31	773	893	1096	1259	4021	1331	1331	1160	1260	5082	26	15	3
DATA ARCHTS	11-30	306	364	291	281	1242	344	401	353	537	1635	32	38	56
DYNAMICS RES	12-25	437	252	-1049 ⁴	668	308	514	546	590	806	2456	697	1605	466
INTERMETRICS	02-28	155	183	-2615	-2834 ⁵	-5111	383	247	43	157	830	116	108	104
KEANE	12-31	233	191	141	201	766	231	-181	4	229	283	-63	-90	-32
LOGICON	03-31	2210	2378	2511	2484	9583	2541	2382	2162	2248	9333	-3	-8	-12
NSA	09-30	-77	-10	-14	77	-24	-17	106	170	104	363	1613	617	335
RAND INFO.	02-28	-236	-307	-402	674 ⁶	-271	46	-673	-813	-572	-2012	-642	-5780	-609
SCI SYS SVC	12-31	-115	-2113	-412	-1867 ⁷	-4507	-210	59	75	160	84	102	107	110
SOFTTECH	05-31	198	-1757 ⁸	442	500	-617	579	635	475	490	2179	453	296	2
SYSCON CORP	11-30	986	1103	1149	1190	4428	1103	1319	1409	1532	5363	21	24	26
SYST. & COMP.	09-30	627	97	-1082 ⁹	-128	-486	-9610	-749	-4323	-467	-15149 ¹⁰	-3017	-398	-296
TECHNALYSIS	12-31	257	289	311	334	1191	207	244	294	311	1056	-11	-9	-6
TOTALS		24684	19262	18018	20355	82319	17475	26049	24053	30959	98536	20	41	43

26 COMPANIES

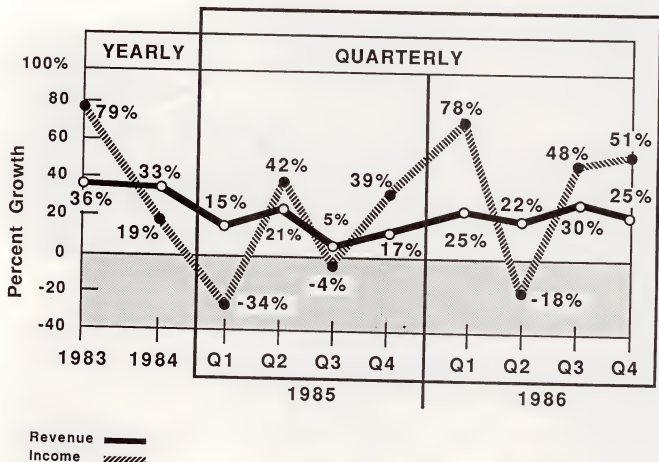
FOOTNOTES

- 1 AGS Computer attributed its revenue improvement to its banking software products group and its microcomputer distribution subsidiary, Microamerica. During fourth quarter, the company completed the following acquisitions: Advanced Programming, Systemtech, and Vista Concepts.
- 2 Scientific Systems Services' decreased revenue in second quarter 1985 was due to a two-year project that overran budget. Since the company books revenue on the basis of project completion/budget spent, the project forced the company to debook revenues this quarter. Revenues were booked during third quarter fiscal 1985.
- 3 Analysts International attributed the improvement in net income to cost-cutting efforts and an infusion of new business. In addition, because of income tax credit carryforwards and a loss for the first part of the year, a tax credit was applied to pre-tax income during fourth quarter.
- 4 Dyanamic Research's loss resulted from discontinued operations. Two product lines, Backage and Digital Readout, were divested.
- 5 Intermetrics took losses on Ada contract.
- 6 Rand Information Systems sold a subsidiary and a software product.
- 7 Scientific Systems Services' substantial losses during second and fourth quarters 1985 were attributed to revisions of management's estimates of the cost to complete several large projects and by the Northern States Power Company contract termination.
- 8 At fiscal year end, Softech shut down its microcomputer software subsidiary, Softech Microsystems, and wrote it off as a loss.
- 9 Systems and Computer Technology's fiscal 1985 fourth quarter loss was due to lower than projected revenues combined with increased costs associated with the company's reorganization, adjustments for a contractual dispute, and increased expenses for legal and professional services.
- 10 Systems and Computer Technology's first quarter loss included a \$14.9 million charge to operations for a class action litigation settlement, legal fees, and related expenses. This result largely accounted for the decrease in net income of the whole sector in Q1 1986. The company's remaining losses were attributed to lower than expected revenues, particularly from new sales, due to the litigation and a changing marketplace.

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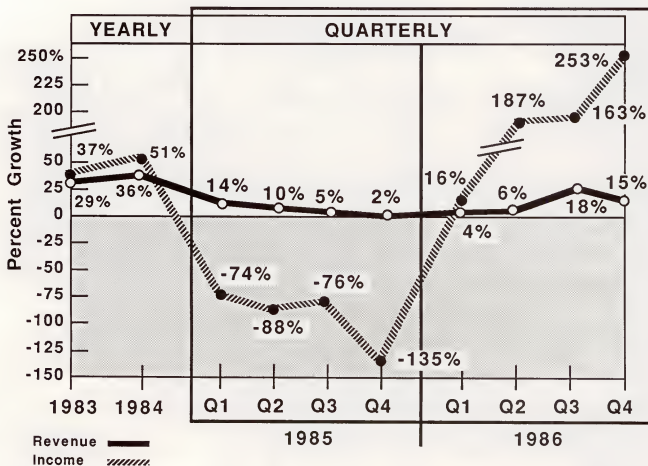
V SOFTWARE PRODUCTS TRENDS ANALYSIS

- During fourth quarter 1986, revenue for the software products sector grew 25%. The 1986 annual growth rate was 26%.
- Note that Adobe Systems, Infodata Systems, Sage Software, Systems Software Associates, and Synercom Technology have been added to our list of public software products companies. Comserve and Integrated Software Systems have been removed from our list due to their respective acquisitions by Management Science America and Computer Associates.
- Software products companies achieving the highest growth rates during fourth quarter 1986 were Adobe Systems (166%), Oracle (148%), Duquesne Systems (114%), and Software Services of America (110%).
- Software products companies with the biggest drop in revenue during fourth quarter were Synercom Technology (-69%), BPI Systems (-61%), Timberline Software (-37%), and Sterling Software (-35%).
- Growth in earnings for the software products sector was 51% for the quarter, bringing 1986 annual growth to 40%.
- Companies in this sector with the highest fourth quarter net income growth rates were Infodata Systems (736%), Hogan Systems (256%), Continuum (227%), Oracle (165%), American Software (122%), and Sterling Software (114%).
- Software products companies sustaining the largest decreases in net income were Silvar-Lisco (-935%), BPI Systems (-780%), Information Sciences (-353%), Cullinet (-229%), and Synercom Technology (-155%).
- The most profitable software products companies during fourth quarter were Hogan Systems (29%), MacNeal-Schwendler (26%), Microsoft (24%), UCCEL (24%), and VM Software (24%).
- The most profitable software products companies of 1986 were MacNeal-Schwendler (26%), Adobe Systems (22%), Autodesk (22%), Microsoft (22%), and Duquesne Systems (21%).
- The total sample was 40 public software products companies.

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VI TURNKEY SYSTEMS TRENDS ANALYSIS

- Revenue for the turnkey systems sector grew 15% during fourth quarter 1986. The 1986 annual growth rate was 11%.
- Note that Interleaf and ISC Systems have been added to our list of public turnkey systems vendors. SAI has been removed due to its acquisition by First Data Resources. Tera has changed its name to Tenera.
- Turnkey systems companies displaying the highest growth in revenues for the quarter were C3 (126%), Baron Data Systems (118%), Interleaf (98%), Computer Consoles (62%), and Reynolds and Reynolds (60%).
- The biggest drops in revenue during fourth quarter were experienced by Daisy Systems (-31%), HBO (-18%), National Data Communications (-16%), and ISC Systems (-15%).
- The net income situation continued to improve during fourth quarter. Fourth quarter growth was 353% over the same period in 1985. Annual growth was 526% for the sector.
- After sustaining heavy losses throughout 1985 and the first half of 1986, Computervision has become profitable, which has contributed most to the turnkey systems sector turnaround.
- In addition to Computervision, the following companies had the highest earnings growth rates during fourth quarter: Comtek Research, C3, Interleaf, Tenera, Computer Consoles, Triad Systems, and National Data Communications.
- Companies in this sector with the most significant decrease in net income during fourth quarter were ISC Systems (-99%), Daisy Systems (-80%), Computer Designed Systems (-77%), and HBO (-67%).
- The companies exhibiting the highest profit margins during fourth quarter were CompuTrac (18%), Intergraph (12%), Tenera (11%), and Gerber Scientific (10%).
- The most profitable turnkey companies of 1986 were CompuTrac (18%), Intergraph (12%), and Gerber Scientific (9%).
- The total sample was 23 public turnkey systems companies.

REVENUES OF PUBLIC TURNKEY SYSTEMS COMPANIES

COMPANY NAME	FISCAL YEAR END	REVENUE (\$ Thousands)										GROWTH (Percent)			
		1985					1986					1986/ 1985	LAST 3 ROLLING	LAST 2 ROLLING	LAST 2 QUARTS
		Q1	Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL				
ASK COMPUTER	06-30	19187	20761	12780	19051	71779	17601	26587	20344	21159	85691	19	29	30	
AUTO-TROL TECH	12-31	18901	16383	14286	15790	65360	15595	14860	15400	16494	62349	-5	1	6	
AVANT-GARDE	04-30	3690	5555	3118	3631	15994	4005	4449	4629	4986	18069	13	14	42	
BARON DATA SYS	03-31	4214	4951	5479	7182	21826	6712	5805	13632	15648	41797	92	99	131	
BARRISTER INFO	03-31	8040	5558	6367	6529	26494	10877	5563	8152	8583	33175	25	21	30	
C3	03-31	18758	19068	23300	11200	72326	11700	14700	21420	25297	73117	1	15	35	
COMTEK RESEARCH	03-31	6685	6723	7185	6797	27390	7825	7151	7952	9219	32147	17	17	23	
COMPTON CONSOLES	12-31	25976	35076	25386	25442	111880	21184	33085	34009	41279 ¹	129557	16	26	48	
COMPTON DESIGN	08-31	768	639	967	760	3134	940	846	894	694	3374	8	3	-8	
COMPUTERVISION	12-31	105871	112288	105752	117226	441137	112918	119339	125920	136495	494672	12	14	18	
* COMPUTRAC	01-31	1857	2194	2012	2076	8139	2405	2884	2911	2800	11000	35	37	40	
DAISY SYSTEMS	09-30	29042	32511	35511	36573	133637	22488	23089	24999	25380	95956	-28	-30	-30	
* DIMIS	12-31	345	182	149	328	1004	222	325	250	300	1097	9	33	15	
GERBER SCI.	04-30	64427	48341	45089	49420	207277	48936	54405	56314	53351	213006	3	15	16	
HBO	12-31	44171 ²	46400	49320	48944	188835	41198	37567 ³	35962	40095	154822	-18	-21	-23	
INTERGRAPH	12-31	108973	130556	131406	155470	526405	147016	150371	150967	157383	605737	15	10	7	
INTERLEAF	03-31	4266	2789	3775	5242	16072	6840	6405	8578	10405	32228	101	115	111	
ISC SYSTEMS	06-30	38098	44900	37779	40947	161724	41000	46360	40223	34797 ⁴	162380	0	-2	-5	
NATL DATA COMM	10-31	1606	1667	1385	1281	5939	1259	1246	1281	1071	4857	-18	-17	-12	
PENTA SYSTEMS	12-31	4395	5484	4959	4817	19655	5849	5191	5475	5049	21564	10	3	8	
REYNOLDS & R.	09-30	82501	83215	85012	80560	331288	87662	102140	133649	128999	452450	37	47	59	
TENERA	06-30	5353	5773	5892	6899	23917	6536	9247	9590	9800	35173	47	54	52	
TRIAD SYSTEMS	09-30	22431	27522	33400	27700	111053	25600	26321	32045	27200	111166	0	-3	-3	
TOTALS		619555	658536	640309	673865	2592265	646368	697936	754596	776484	2875384	11	13	17	

* INPUT ESTIMATE

NET INCOME OF PUBLIC TURNKEY SYSTEMS COMPANIES

COMPANY NAME	FISCAL YEAR END	NET AFTER TAX INCOME (\$ Thousands)										GROWTH (Percent)		
		1985					1986					1986/ 1985	LAST 3 ROLLING	LAST 2 ROLLING
		Q1	Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	%(+/-)	QUARTRS	QUARTRS
ASK COMPUTER	06-30	1788	2317	694	1839	6638	1371	1985	1775	1995	7126	7	19	49
AUTO-TROL TECH	12-31	-251	-4974	-3897	-2557	-11679	-1603	-1778	-691	-2966	-7038	40	52	43
AVANT-GARDE	04-30	392	-269	-1293	-1279	-2449	-2313	-774	-895	-541	-4523	-85	22	44
BARON DATA SYS	03-31	289	157	287	571	1304	331	233	277	425	1266	-3	-8	-18
BARRISTER INFO	03-31	1324	-86	195	272	1705	1264	-574	16	302	1008	-41	-167	-32
C3	03-31	873	768	1400	-335	2706	-327	518	4	1681	1876	-31	20	58
COMTEK RESEARCH	03-31	333	268	240	5	846	82	124	201	283	690	-18	19	98
COMPTON CONSOLES	12-31	-5505	-4610	-4216	-27580 ⁵	-41911	-5624	-886	1633	1894	-2983	93	107	111
COMPTON DESIGN	08-31	73	74	63	87	297	56	112	-80	20	108	-64	-77	-140
COMPUTERVISION	12-31	-18766	-19510	-20723	-21778 ⁶	-80777	-7006	-3404	1165	3471	-5774	93	102	111
* COMPUTRAC	01-31	199	360	286	271	1116	379	514	633	500	2026	82	80	103
DAISY SYSTEMS	09-30	4685	5532	5882	6312	22411	-4705	-1828 ⁷	-860	1293	-6100	-127	-108	-96
* DIMIS	12-31	-307	-357	-272	-86	-1022	-241	-167	-200	-100	-708	31	35	16
GERBER SCI.	04-30	6546	4331	4206	4657	19740	4996	4689	4789	5226	19700	0	11	13
HBO	12-31	5867	6107	5903	2965	20842	746	-6256 ⁸	924	974	-3612	-117	-129	-79
INTERGRAPH	12-31	14340	16735	18018	18686	67779	18003	17343	15496	19520	70362	4	-2	-5
INTERLEAF	03-31	437	-1362	-963	-376	-2264	258	-1154	-251	353	-794	65	61	108
ISC SYSTEMS	06-30	2100	3289	2649	3289	11327	3700	4217	2809	29	10755	-5	-24	-52
NATL DATA COMM	10-31	-272	-1073	-638	-331	-2314	-406	634 ⁹	-331	7	-96	96	115	67
PENTA SYSTEMS	12-31	-482	-1307	-1870	-4003	-7662 ¹⁰	252	223	331	-194 ¹¹	612	108	105	102
REYNOLDS & R.	09-30	4785	4984	7182	4901	21852	5419	6512	7024	4494	23449	7	6	-5
TENERA	06-30	-1389	-4037 ¹²	292	-2000	-7134	519	663	-1414 ¹³	1100	868	112	106	82
TRIAD SYSTEMS	09-30	-3574 ¹⁴	207	-517	403	-3481	551	689	1538	833	3611	204	3190	2180
TOTALS		13485	7544	12908	-16067	17870	15702	21635	33893	40599	111829	526	2092	2458

* INPUT ESTIMATE

23 COMPANIES

FOOTNOTES

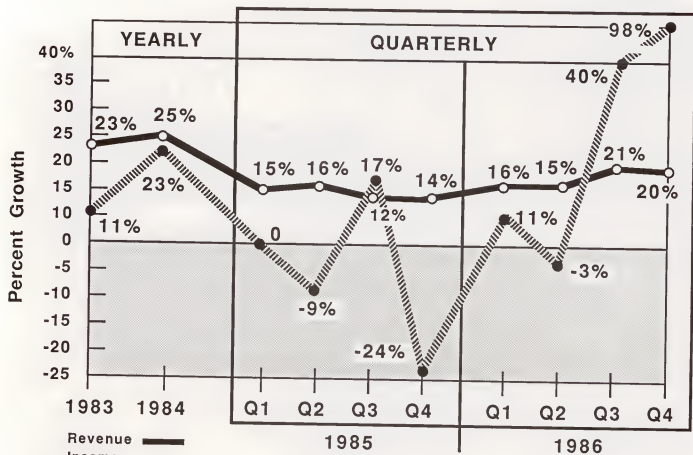
- 1 Computer Consoles reported that sales to its customers in the communications systems industry contributed to improved fourth quarter revenues, including the shipment of \$13 million of add-on directory assistance equipment for British Telecom.
- 2 HBO's revenue reflects acquisition of Amherst and Mediflex.
- 3 HBO's revenue in second quarter 1986 reflects a change in accounting methods.
- 4 ISC Systems reported that the reduced level of revenue for the quarter was the result of the rescheduling of installation dates for several major projects into the next quarter and reduced rates of add-on business to existing customers and distributors.
- 5 Computer Consoles' loss reflected a decline in revenues, changes in product mix, provisions for excess and obsolete inventory and spares, and costs related to a program of internal restructuring and functional consolidation. The company has now returned to profitability.
- 6 Computervision sustained heavy losses starting first quarter 1985 due to a decline in revenue after facilities, staff, and other resources had been expanded to meet expected growth. Since the company has brought its expenses more in line with revenues, profitability has returned.
- 7 Daisy Systems' loss was attributed to a weak capital spending environment combined with delayed shipments, product transition, and severance payments resulting from layoffs.
- 8 HBO's loss in second quarter 1986 reflects \$9.4 million in write-offs due to (1) internal reorganization, (2) dissolution of its holding company, (3) a write-off of capitalized software, and (4) write-downs of computer hardware to market value.
- 9 National Data Communications formed a new company through a joint venture agreement. The extraordinary gain resulted from the difference between the market and book values of the preferred stock exchanged in the agreement.
- 10 Penta Systems' loss was a result of declining sales combined with an increase in cost of sales as a percentage of sales. The company also incurred charges associated with restructuring corporate operations.
- 11 Penta Systems' loss was primarily due to a write-off for obsolete inventory.
- 12 Tenera attributed losses for fiscal year 1985 to fixed-price development contracts for computer management systems and to related marketing efforts.

- 13 TENERA's third quarter loss included a loss of \$2.3 million from discontinued operations.
- 14 Triad Systems' losses were due to lower than expected order rates combined with several one-time charges, including a higher provision for returned systems and inventory and bad debt write-offs, as well as reduction in the company's effective tax rate.

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VII PUBLIC INFORMATION SERVICES TRENDS ANALYSIS

- The comparison of the quarter growth rates (e.g., 1986 growth in fourth quarter compared to 1985 growth in fourth quarter for a given service sector) enables the rate of growth, recovery, or lack thereof to be clearly observed for each industry sector.
- Steady revenue growth continued for the processing/network services sector. The net income situation continued its recovery during fourth quarter after the setback that occurred during the first two quarters of the year. Fourth quarter profitability for the processing/network services sector was 9%.
- Steady growth in revenues also continued for the professional services sector, while growth in earnings accelerated. After experiencing no growth in net income for the year 1985, the sector grew 20% in 1986--the same annual rate achieved in 1984. Fourth quarter profitability for the professional services sector was 4%.
- Revenues for the software products sector continued to grow at a healthy rate as growth in income jumped for the second consecutive quarter, leading to a 40% annual growth rate for 1986. Fourth quarter profitability for the software products sector was 14%.
- The turnkey systems sector's revenue growth continued to accelerate, while earnings growth soared to an all-time high. This growth is due primarily to Computervision's 1986 recovery after sustaining heavy losses each quarter in 1985. Fourth quarter profitability for the turnkey systems sector was 5%.
- Although affected by major individual company write-offs and heavy merger/acquisition activity, the performance of public information services vendors overall was strong by the end of 1986. Steady revenue growth continued, while earnings growth skyrocketed. The fourth quarter net income growth rate was 98%, bringing annual growth to 36%.
- The total sample was 129 public information services companies.

PUBLIC INFORMATION SERVICES VENDORS' REVENUE GROWTH RATES (Percent)

		PUBLIC ANNUAL TOTAL			
		Q1	Q2	Q3	Q4
PROCESSING/NETWORK SERVICES VENDORS (40 COMPANIES)	1982/1981	17	13	21	18
	1983/1982	19	16	16	19
	1984/1983	23	23	18	17
	1985/1984	15	17	16	18
	1986/1985	17	18	18	21
					19
PROFESSIONAL SERVICES VENDORS (26 COMPANIES)	1982/1981	19	18	20	18
	1983/1982	15	18	22	19
	1984/1983	16	17	12	14
	1985/1984	15	15	19	19
	1986/1985	18	20	20	19
					19
SOFTWARE PRODUCT VENDORS (40 COMPANIES)	1982/1981	46	32	29	32
	1983/1982	30	31	41	40
	1984/1983	53	36	33	19
	1985/1984	15	21	5	17
	1986/1985	25	22	30	25
					26
TURNKEY SYSTEMS VENDORS (23 COMPANIES)	1982/1981	24	18	11	21
	1983/1982	16	24	37	36
	1984/1983	38	46	33	29
	1985/1984	14	10	5	2
	1986/1985	4	6	18	15
					11
TOTAL PUBLIC INFORMATION SERVICES VENDORS (129 COMPANIES)	1982/1981	23	19	19	21
	1983/1982	18	20	26	26
	1984/1983	29	29	23	20
	1985/1984	15	16	12	14
	1986/1985	16	16	21	20
					18

PUBLIC INFORMATION SERVICES VENDORS' NET INCOME GROWTH RATES (Percent)

		PUBLIC ANNUAL			
		Q1	Q2	Q3	Q4 TOTAL
PROCESSING/NETWORK SERVICES VENDORS (40 COMPANIES)	1982/1981	51	2	20	32 25
	1983/1982	18	-1	-12	-93 -21
	1984/1983	-34	23	-93	848 2
	1985/1984	113	31	1486	35 93
	1986/1985	-3	-27	11	54 7
PROFESSIONAL SERVICES VENDORS (26 COMPANIES)	1982/1981	47	20	91	19 38
	1983/1982	1	-6	18	33 11
	1984/1983	21	18	-7	47 20
	1985/1984	23	9	8	-27 0
	1986/1985	-29	35	33	52 20
SOFTWARE PRODUCT VENDORS (40 COMPANIES)	1982/1981	73	9	7	-41 -4
	1983/1982	10	28	63	211 79
	1984/1983	129	7	9	-8 19
	1985/1984	-34	42	-4	39 10
	1986/1985	78	-18	48	51 40
TURNKEY SYSTEMS VENDORS (23 COMPANIES)	1982/1981	22	30	-20	-11 3
	1983/1982	-23	3	96	81 37
	1984/1983	122	93	19	26 51
	1985/1984	-74	-88	-76	-135 -95
	1986/1985	16	187	163	353 526
TOTAL PUBLIC INFORMATION SERVICES VENDORS (129 COMPANIES)	1982/1981	43	15	9	-6 14
	1983/1982	4	3	32	10 11
	1984/1983	27	36	-17	49 23
	1985/1984	0	-9	17	-24 -7
	1986/1985	11	-3	40	98 36

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Offices

NORTH AMERICA

Headquarters

1943 Landings Drive
Mountain View, CA 94043
(415) 960-3990
Telex 171407

New York

Parsippany Place Corp. Center
Suite 201
959 Route 46 East
Parsippany, NJ 07054
(201) 299-6999
Telex 134630

Washington, D.C.

8298 C, Old Courthouse Rd.
Vienna, VA 22180
(703) 847-6870

EUROPE

United Kingdom

INPUT
41 Dover Street
London W1X 3RB
England
01-493-9335
Telex 27113

Italy

Nomos Sistema SRL
20124 Milano
Viale Vittorio Veneto 6
Italy
228140 and 225151
Telex 321137

Sweden

Athena Konsult AB
Box 22232
S-104 22 Stockholm
Sweden
08-542025
Telex 17041

ASIA

Japan

ODS Corporation
Dai-ni Kuyo Bldg.
5-10-2, Minami-Aoyama
Minato-ku,
Tokyo 107
Japan
(03) 400-7090
Telex 26487

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